

## REMARKS

The following remarks are in response to the Office Action dated July 12, 2005. Claims 1-36 are now present in this case. Claims 27-36 are allowed. No claims were amended. For the Examiner's convenience, all claims pending in the application are included herewith.

The applicants wish to express their appreciation to the Examiner for the allowance of claims 27-36 and for the further indication that claims 15-21 would be allowable if rewritten in independent form. However, as discussed in detail below, claims 15-21 are believed allowable in their present form.

Claims 1-4, 8, and 26 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,338,368 to Dotts et al. The applicants respectfully traverse this rejection and request reconsideration. Dotts is directed to an attachment system for thermal tiles, such as those used on the space shuttle. The Office Action appears to equate the thermal tiles themselves with the experimental package recited in claim 1. This is incorrect. Dotts describes a technique for attaching the thermal tiles that protect the reentering spacecraft from destruction. There is no suggestion that these thermal tiles form an experimental package, as recited in claim 1.

Claim 1 recites *inter alia* a reusable orbital vehicle "having an outer skin surface" as well as "a plurality of attachment positions located on the outer skin surface of the orbital vehicle." The thermal tiles of Dotts form the outer skin surface of the orbital vehicle. Dotts does not teach or suggest any attachment positions on the surface of the thermal tiles. Furthermore, claim 1 recites "a first experimental package affixed to the orbital vehicle at a first one of the plurality of attachment positions." As noted above, the thermal tiles of Dotts form the outer skin surface of the orbital vehicle. Dotts does not teach or suggest any attachment positions on the outer surface of the thermal tiles. Furthermore, Dotts does not teach or suggest any experimental package affixed to an attachment position on the outer surface.

Accordingly, claim 1 is clearly allowable over Dotts. Claims 2-4, 8, and 26 are allowable in view of the fact that they depend from claim 1, and further in view of the recitation in each of those claims.

Claims 1-4, 8, and 12-14 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,402,965 to Cervisi et al. The applicants respectfully traverse this rejection and request reconsideration. The Office Action, at page 2, refers to high thermal performance (HTP) tiles as “experiment packages.” This is a fundamental misreading of Cervisi. The HTP tiles form the outer skin of the spacecraft and provide protection from the heat of reentry. Cervisi does not teach or suggest any function of the HTP tiles as experimental packages. The thermal tiles are clearly part of the thermal protection system. (See column 7, lines 16-17.)

The HTP tiles 110 form the outer skin surface of the reusable vehicle disclosed by Cervisi. Cervisi does not teach or suggest any attachment positions on the outer surface of those protection tiles nor an experimental package attached to one of the plurality of attachment positions, as recited in claim 1. Accordingly, claim 1 is clearly allowable over Cervisi. Claims 2-4, 8, and 12-14 are also allowable in view of the fact that they depend from claim 1, and further in view of the recitation in each of those claims.

Claims 1, 5-7, 9-11, and 22-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Statutory Invention Registration No. H1133 to Bridges et al. combined with Dotts et al. The applicants respectfully traverse this rejection and request reconsideration. The Office Action appears to cite Bridges only for its disclosure of access panels on a reusable orbital vehicle and correctly states that Bridges is silent on the use of experimental packages. At the outset, it should be noted that Bridges is directed to an aircraft arresting system while Dotts is directed to a technique for attaching silica thermal tiles. Nothing in either reference suggests the combination achieved in the Office Action. The two references are classified in completely different International and U.S. classifications and have no overlapping fields of search. In view of the fact that the references are directed to completely different inventive areas and do not suggest the combination, the Office Action fails to establish a *prima facie* case of obviousness. Accordingly, the rejection of claims 1, 5-7, 9-11, and 22-25 over the combination of Bridges and Dotts should be withdrawn.

Even if the references were combined in the manner suggested in the Office Action, the combination of references do not suggest the claimed invention. As

previously discussed, Dotts discloses techniques for attaching thermal tiles to a spacecraft to form the outer skin surface thereof. However Dotts does not teach or even suggest attachment positions on the outer skin surface (i.e., the surface of the thermal protection tiles) nor an experimental package affixed at one of the plurality of attachment positions. The addition of Bridges disclosing access panels does not overcome this serious deficiency. It is noted that claim 1 does not even recite an access panel. Claim 5, which depends from claim 1 recites an access panel on the outer skin surface wherein at least one of the plurality of attachment positions is located on the access panel. Neither of the combination of references suggests such a structure. Accordingly, claim 5 is clearly allowable over the combination of references.

The Office Action, at page 3, states that the carrier plate recited in claim 7 is equivalent to item 14 in Bridges et al. It should be noted that item 14 in Bridges et al. is the aircraft itself. (See column 3, lines 45-47.) Claim 7, which depends from claim 1 already recites an orbital vehicle. The aircraft in Bridges does not further serve as a carrier plate for attachment, such as recited in claim 7 wherein "the carrier plate is intermediate the outer skin surface of the orbital vehicle and the first experimental package."

Claims 1, 5-7, 9-11, and 22-25 are clearly allowable over the combination of Bridges and Dotts.

In view of the above remarks, reconsideration of the subject application and its allowance are kindly requested. The applicants have made a good faith effort to place all claims in condition for allowance. If questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 628-7640.

Respectfully submitted,  
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